UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/495,971	02/02/2000	Sarit Neter	DIYM2000002CCC	5523

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EXAMINER
HENN, TIMOTHY J

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	09/495,971	NETER, SARIT
	Examiner	**Art Unit**	
	Timothy J. Henn	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>06 March 2009</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1,3,4,6-10,12-20,22,23,26,28-33,35,36,39 and 40</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1,3,4,6-10,12-20,22,23,26,28-33,35,36,39 and 40</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>02 February 2000</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the

fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection.

Since this application is eligible for continued examination under 37 CFR 1.114,

and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the

previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on 29 January 2009 has been entered.

Response to Arguments

2.   Applicant's arguments with respect to the claims have been considered

but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3.   The text of those sections of Title 35, U.S. Code not included in this action

can be found in a prior Office action.

4.   Claims 1, 3, 4, 6-8, 12-20, 22, 26, 28-33, 35, 36, 39 and 40 are rejected

under 35 U.S.C. 103(a) as being unpatentable over von Stein et al. (US

6,529,243) in view of Hashimoto (US 4,768,085) in view of Ogawa et al. (US

7,142,233) in view of Roberts (5,541,654).

[claim 1]

        In regard to claim 1, note that von Stein discloses a color imaging system

for compensating a color response, comprising: a first, second and third analog

compensation units coupled to respective colors and adapted to modify a readout

of the color signals (Figure 1, Items 7a-7c). Further note that the analog

compensation units of von Stein are not disclosed as being white balance

amplifiers, nor is the system disclosed as using a white balance controller.

However, von Stein uses multiple arrays of pixel sensors to capture images, and

does not disclose a single array using a color filter comprising multiple color filter

components as claimed.

Hashimoto discloses a color imaging system for compensating a color

response comprising: an array of pixel sensor elements (e.g. Figure 1); a color

filter including a plurality of color filter components organized in a predefined

pattern, the color filter overlaying at least a portion of the array, wherein the pixel

sensor elements include at least one element associated with a first color filter

component, at least one element associated with a second color component and

at least one element associated with a third color component (e.g. Figure 1; c. 3,

ll. 37-47); an analog summer (i.e. summing amplifier) coupled to two elements

associated with the third color filter component and outputting an analog sum of

the two elements (Figure 2, Item 2a3; Figure 5); and an array controller (Figure 1,

Items 2a1, 2a2). The array of Hashimoto allows for simultaneous output of R, G

and B color signals without the need for multiple arrays and optical

splitters/mirrors. Therefore, it would be obvious to use the array of Hashimoto to

capture the image signals for the system of von Stein to reduce the total number

of components, the complexity and the cost of the system. Hashimoto further

discloses simultaneous readout of two horizontal lines, but does not explicitly

disclose simultaneous readout of a 2x2 block.

Ogawa discloses an image sensor which reads out pixel signals in units of

blocks (i.e. simultaneous readout of a 2x2 block; Figure 4; c. 3, ll. 57-59). Ogawa

further discloses that this manner of readout the basic blocks necessary for

interpolation processing are available and an interpolated signal for an arbitrarily

read region can be obtained at random (c. 7, ll. 39-50). Therefore, it would have

been obvious to one of ordinary skill in the art at the time the invention was made

to perform readout in units of blocks as taught by Ogawa in the image sensor of

Hashimoto in order to allow for interpolated signals of arbitrary regions to be

obtained at random. It is further noted that the filter pattern of Hashimoto is not a

Bayer pattern (Figure 1, note that the g1 and g2 pixels are not offset diagonally).

While Ogawa discloses an embodiment which uses a Bayer pattern, Ogawa is

not limited in any way to this arrangement (c. 7, ll. 55-60). For example, it is

noted that Ogawa discloses a second embodiment which does not use a Bayer

pattern (Figures 7-10). However, von Stein in view of Hashimoto in view of

Ogawa lacks readout of components in a selected window of the array while

other sections of the array are not processed.

Roberts teaches the use of a windowing operation in which a subset of the

array (Figure 6, Items 172 or 174) are readout independently from the rest of the

array. Roberts further discloses that the rest of the array may not be read out

(i.e. processed) while the window may be scanned at a frame rate much higher

than if the entire array were to be read out (c. 10, ll. 9-21). Therefore, it would

have been obvious to one of ordinary skill in the art at the time the invention was

made to implement a windowing operation in the device of Hashimoto in order to

achieve higher frame rates by reading out (i.e. processing) only a subset of the

entire array. The examiner notes that Roberts discloses the use of a control

circuit 32 and decoding and latching circuits 22 and 24 (c. 4, ll. 20-41).

[claim 3]

In regard to claim 3, note that Hashimoto discloses an array which is

arranged in a plurality of rows and columns (e.g. Figure 1).

[claim 4]

In regard to claim 4, note that Hashimoto discloses an array controller

adapted to control readout of a plurality of pixel sensor elements in parallel (c.4,

ll. 5-15).

[claim 6]

In regard to claim 6, note that von Stein discloses analog compensation

units which are gain amplifiers (c.4, ll. 16-19).

[claims 7 and 8]

In regard to claims 7 and 8, von Stein discloses programmable gain

amplifiers which are implemented as a separate stage (Figure 1, Items 7a-7c; c.

4, ll. 16-19).

[claim 12]

In regard to claim 12, note that Hashimoto discloses color filter

components including the colors of red, blue and green (Figure 1; c. 3, ll. 37-47).

[claims 13 and 14]

In regard to claims 13 and 14, von Stein in view of Hashimoto discloses all limitations except for the interlaced or odd and even readout modes of columns and rows.   However, the use of independent readout of even and odd rows or columns is well known in the art to create industry standard NTSC TV signals or to reduce the amount of data readout during for a frame when a high frame rate is more important than high resolution. Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to use even and odd row or column readout with the imaging system of von Stein in view of Hashimoto to create NTSC TV signals or to reduce the resolution in order to achieve higher frame rates.

[claim 15]

In regard to claim 15, note that Ogawa discloses an array controller which causes a plurality of substantially simultaneous, independent readouts for a plurality of rows and some columns (Figure 4; c. 3, ll. 57-59).

[claims 16 and 19]

In regard to claims 16 and 19, von Stein in view of Hashimoto discloses all limitations except for a passive CCD imaging device. However, the use of CCD imagers in cameras is well known in the art to provide higher sensitivity than other imagers, such as CMOS imagers (Official Notice). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a passive CCD imager as the imaging device of von Stein in view of Hashimoto to achieve higher sensitivity.

[claims 17 and 18]

In regard to claims 17 and 18, von Stein in view of Hashimoto discloses all limitations except for an active CMOS imaging sensor device. However, it is well known in the art to use active CMOS image sensors in applications where nondestructive readout of pixels is required, such as in Hashimoto (e.g. c. 3, ll. 48-52). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to use an active CMOS image sensor in the imaging system of von Stein in view of Hashimoto to allow for non-destructive readout of the image sensor (Official Notice).

[claim 20]

In regard to claim 20, note that at least a first pixel sensor element of Hashimoto is associated with a different color than a second, neighboring pixel sensor element (Hashimoto; Figure 1).

[claim 22]

In regard to claim 22, note that von Stein in view of Hashimoto discloses all limitations except for a complementary color scheme include yellow, cyan and magenta color filters. However, the use of yellow, cyan and magenta is a well known design alternative to the use of red, green and blue color filters as is well known in the art. Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to use yellow, cyan and magenta color filters to achieve color images (Official Notice).

[claim 26]

In regard to claim 26, von Stein discloses a method of compensating a color response in an analog domain of pixel sensor elements comprising:

amplifying an analog output from a plurality of elements of first and second color components (Figure 1, Items 7a-7c). Further note that the analog compensation units of von Stein are not disclosed as being white balance amplifiers, nor is the system disclosed as using a white balance controller. However, von Stein does not disclose summing two element outputs of a second color prior to amplifying.

Hashimoto discloses an array wherein two said elements outputs are summed together prior to being output to an amplifier (Figure 5, Item 3 and (G1+G2); c. 4, ll. 55-59; c. 5, ll. 49-60). The array of Hashimoto allows for simultaneous output of R, G and B color signals without the need for multiple arrays and optical splitters/mirrors. Therefore, it would be obvious to use the array of Hashimoto to capture the image signals for the system of von Stein to reduce the total number of components, the complexity and the cost of the system. Hashimoto further discloses simultaneous readout of two horizontal lines, but does not explicitly disclose simultaneous readout of a 2x2 block.

Ogawa discloses an image sensor which reads out pixel signals in units of blocks (i.e. simultaneous readout of a 2x2 block; Figure 4; c. 3, ll. 57-59). Ogawa further discloses that this manner of readout the basic blocks necessary for interpolation processing are available and an interpolated signal for an arbitrarily read region can be obtained at random (c. 7, ll. 39-50). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to perform readout in units of blocks as taught by Ogawa in the image sensor of Hashimoto in order to allow for interpolated signals of arbitrary regions to be obtained at random. It is further noted that the filter pattern of Hashimoto is not a

Bayer pattern (Figure 1, note that the g1 and g2 pixels are not offset diagonally).

While Ogawa discloses an embodiment which uses a Bayer pattern, Ogawa is

not limited in any way to this arrangement (c. 7, II. 55-60). For example, it is

noted that Ogawa discloses a second embodiment which does not use a Bayer

pattern (Figures 7-10). However, Hashimoto in view of Ogawa lacks readout of

components in a selected window of the array while other sections of the array

are not processed.

Roberts teaches the use of a windowing operation in which a subset of the

array (Figure 6, Items 172 or 174) are readout independently from the rest of the

array. Roberts further discloses that the rest of the array may not be read out

(i.e. processed) while the window may be scanned at a frame rate much higher

than if the entire array were to be read out (c. 10, II. 9-21). Therefore, it would

have been obvious to one of ordinary skill in the art at the time the invention was

made to implement a windowing operation in the device of Hashimoto in order to

achieve higher frame rates by reading out (i.e. processing) only a subset of the

entire array. The examiner notes that Roberts discloses the use of a control

circuit 32 and decoding and latching circuits 22 and 24 (c. 4, II. 20-41).

[claim 28]

In regard to claim 28, note that von Stein discloses generating a

compensated analog readout comprising amplifying the analog readout for the

plurality of elements of the first color component with a first programmable gain

amplifier (Figure 1, Items 7a-7c; c. 4, II. 16-22).

[claim 29]

In regard to claim 29, note that von Stein discloses determining an optical

level of color compensation for the analog readout of the plurality of elements of

the first color component (c. 4; ll. 16-22; i.e. providing corrected video signals).

[claim 30]

In regard to claim 30, von Stein does not disclose generating a

compensated analog readout depending on the temperature of the system.

Official Notice is taken that it is well known to compensate amplifiers for

temperature variations in the system to ensure a stable output over a range of

temperatures. Therefore, it would be obvious to generate the output by

compensating the amplifier for a temperature of the system to ensure that a

stable output is obtained even when temperature variations are present.

[claim 31]

In regard to claim 31, note that the Hashimoto discloses sensor elements

that are associated with the colors of red, blue and green (Figure 1; c. 3, ll. 37-

47).

[claim 32]

In regard to claim 32, note that Hashimoto in view of Ogawa discloses an

act of generating comprising: generating an independent readout for even

numbered rows (i.e. Figure 2, Items G2 and B2); generating an independent

readout for odd numbered rows (i.e. Figure 2, Items G1 and R1); generating an

independent readout for even numbered columns (i.e. Figure 2, Items R1 and

B2); and generating an independent readout for odd numbered columns (i.e.

Figure 1, Items G1 and G2; The office notes that each of the pixel elements G1,

B1, G2 and R2 are readout independently (i.e. on independent readout lines)

from each other which meets the limitation of the claims, such that at least one

element associated with red, blue and green filter components are coupled to

first, second and third gain amplifiers respectively (Figure 5). Further note that

von Stein discloses first, second and third programmable gain amplifiers for R, G

and B color components (Figure 1, Items 7a-7c).

[claim 33]

In regard to claim 33, note that Ogawa discloses an act of generating

comprising generating a plurality of substantially simultaneous, independent

readouts for the set of rows and the set of columns (Figure 4; c. 3, ll. 57-59).

[claim 35]

In regard to claim 35, note that von Stein discloses a color imaging system

for compensating a color response, comprising: a first, second and third analog

compensation units coupled to respective colors and adapted to modify a readout

of the color signals (Figure 1, Items 7a-7c). Further note that the analog

compensation units of von Stein are not disclosed as being white balance

amplifiers, nor is the system disclosed as using a white balance controller.

However, von Stein uses multiple arrays of pixel sensors to capture images, and

does not disclose a single array using a color filter comprising multiple color filter

components as claimed.

Hashimoto discloses a color imaging system for compensating a color

response comprising: an array of pixel sensor elements (e.g. Figure 1); a color

filter including a plurality of color filter components organized in a predefined

pattern, the color filter overlaying at least a portion of the array, wherein the pixel

sensor elements include at least one element associated with a first color filter

component, at least one element associated with a second color component and

at least one element associated with a third color component (e.g. Figure 1; c. 3,

ll. 37-47); an analog summer (i.e. summing amplifier) coupled to two elements

associated with the third color filter component and outputting an analog sum of

the two elements (Figure 2, Item 2a3; Figure 5); and an array controller (Figure 1,

Items 2a1, 2a2). The array of Hashimoto allows for simultaneous output of R, G

and B color signals without the need for multiple arrays and optical

splitters/mirrors. Therefore, it would be obvious to use the array of Hashimoto to

capture the image signals for the system of von Stein to reduce the total number

of components, the complexity and the cost of the system. Hashimoto further

discloses simultaneous readout of two horizontal lines, but does not explicitly

disclose simultaneous readout of a 2x2 block.

Ogawa discloses an image sensor which reads out pixel signals in units of

blocks (i.e. simultaneous readout of a 2x2 block; Figure 4; c. 3, ll. 57-59). Ogawa

further discloses that this manner of readout the basic blocks necessary for

interpolation processing are available and an interpolated signal for an arbitrarily

read region can be obtained at random (c. 7, ll. 39-50). Therefore, it would have

been obvious to one of ordinary skill in the art at the time the invention was made

to perform readout in units of blocks as taught by Ogawa in the image sensor of

Hashimoto in order to allow for interpolated signals of arbitrary regions to be

obtained at random. It is further noted that the filter pattern of Hashimoto is not a

Bayer pattern (Figure 1, note that the g1 and g2 pixels are not offset diagonally).

While Ogawa discloses an embodiment which uses a Bayer pattern, Ogawa is

not limited in any way to this arrangement (c. 7, ll. 55-60). For example, it is

noted that Ogawa discloses a second embodiment which does not use a Bayer

pattern (Figures 7-10). However, Hashimoto in view of Ogawa lacks readout of

components in a selected window of the array while other sections of the array

are not processed.

Roberts teaches the use of a windowing operation in which a subset of the

array (Figure 6, Items 172 or 174) are readout independently from the rest of the

array. Roberts further discloses that the rest of the array may not be read out

(i.e. processed) while the window may be scanned at a frame rate much higher

than if the entire array were to be read out (c. 10, ll. 9-21). Therefore, it would

have been obvious to one of ordinary skill in the art at the time the invention was

made to implement a windowing operation in the device of Hashimoto in order to

achieve higher frame rates by reading out (i.e. processing) only a subset of the

entire array. The examiner notes that Roberts discloses the use of a control

circuit 32 and decoding and latching circuits 22 and 24 (c. 4, ll. 20-41). Roberts

further discloses the use of the control circuit to perform windowing by resetting

and reading of pixels under variable patterns (c. 7, ll. 33-45).

[claim 36]

In regard to claim 36, note that Hashimoto discloses sensor elements

arranged in rows and columns (Figure 1).

[claim 39]

In regard to claim 39, von Stein discloses a method of compensating a color response in an analog domain of pixel sensor elements comprising: amplifying an analog output from a plurality of elements of first and second color components (Figure 1, Items 7a-7c). Further note that the analog compensation units of von Stein are not disclosed as being white balance amplifiers, nor is the system disclosed as using a white balance controller. However, von Stein does not disclose summing two element outputs of a second color prior to amplifying.

Hashimoto discloses an array wherein two said elements outputs are summed together prior to being output to an amplifier (Figure 5, Item 3 and (G1+G2); c. 4, ll. 55-59; c. 5, ll. 49-60). The array of Hashimoto allows for simultaneous output of R, G and B color signals without the need for multiple arrays and optical splitters/mirrors. Therefore, it would be obvious to use the array of Hashimoto to capture the image signals for the system of von Stein to reduce the total number of components, the complexity and the cost of the system. Hashimoto further discloses simultaneous readout of two horizontal lines, but does not explicitly disclose simultaneous readout of a 2x2 block.

Ogawa discloses an image sensor which reads out pixel signals in units of blocks (i.e. simultaneous readout of a 2x2 block; Figure 4; c. 3, ll. 57-59). Ogawa further discloses that this manner of readout the basic blocks necessary for interpolation processing are available and an interpolated signal for an arbitrarily read region can be obtained at random (c. 7, ll. 39-50). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to perform readout in units of blocks as taught by Ogawa in the image sensor of

Hashimoto in order to allow for interpolated signals of arbitrary regions to be

obtained at random. It is further noted that the filter pattern of Hashimoto is not a

Bayer pattern (Figure 1, note that the g1 and g2 pixels are not offset diagonally).

While Ogawa discloses an embodiment which uses a Bayer pattern, Ogawa is

not limited in any way to this arrangement (c. 7, ll. 55-60). For example, it is

noted that Ogawa discloses a second embodiment which does not use a Bayer

pattern (Figures 7-10). However, Hashimoto in view of Ogawa lacks readout of

components in a selected window of the array while other sections of the array

are not processed.

Roberts teaches the use of a windowing operation in which a subset of the

array (Figure 6, Items 172 or 174) are readout independently from the rest of the

array. Roberts further discloses that the rest of the array may not be read out

(i.e. processed) while the window may be scanned at a frame rate much higher

than if the entire array were to be read out (c. 10, ll. 9-21). Therefore, it would

have been obvious to one of ordinary skill in the art at the time the invention was

made to implement a windowing operation in the device of Hashimoto in order to

achieve higher frame rates by reading out (i.e. processing) only a subset of the

entire array. The examiner notes that Roberts discloses the use of a control

circuit 32 and decoding and latching circuits 22 and 24 (c. 4, ll. 20-41).

[claim 40]

In regard to claim 40, note that Hashimoto discloses modifying a third

analog signal corresponding to the output of a third pixel element in the imager to

color correct the third pixel (Figure 5, Item 5; c. 4, ll. 55-59)

5.   Claim 9 and 10 are rejected under 35 U.S.C. 103(a) as being

unpatentable over von Stein et al. (US 6,529,243) in view of Hashimoto (US

4,768,085) in view of Ogawa et al. (US 7,142,233) in view of Roberts (US

5,541,654) as applied to claim 7 above, and in further view of Zhou et al. (IEEE).

[claims 9 and 10]

In regard to claims 9 and 10 it can be seen that von Stein in view of

Hashimoto in view of Ogawa in view of Roberts disclose all limitations except for

programmable gain amplifiers contained within the pixel circuitry and within a

plurality of column buffers. However, such a system is well known in the art, (for

example see Zhou, Figures 1 and 2) as a way to reduce the overall size of

imaging systems. Therefore, It would have been obvious to one of ordinary skill

in the art at the time the invention was made to alter the design of von Stein in

view of Hashimoto with the gain amplifiers of Zhou contained in the pixel circuitry

of the array in a plurality of column buffers to reduce the overall size.

6.   Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over

von Stein et al. (US 6,529,243) in view of Hashimoto (US 4,768,085) in view of

Ogawa et al. (US 7,142,233) in view of Roberts (US 5,541,654) as applied to

claim 1 above, and in further Sano et al. (IEEE).

[claim 23]

In regard to claim 23, note that von Stein in view of Hashimoto in view of

Ogawa in view of Roberts discloses all limitations except for a micro-lens layer.

However, the use of micro-lens layers on image sensors is well known in the art

to increase photosensitivity of the image sensor arrays, for example see Sano et

al. (IEEE). Therefore, It would have been obvious to one of ordinary skill in the

art at the time the invention was made to use a micro-lens layer with the imaging

system of Hashimoto in view of Roberts to increase photosensitivity.

Conclusion

7.   Any inquiry concerning this communication or earlier communications from

the examiner should be directed to Timothy J. Henn whose telephone number is

(571) 272-7310. The examiner can normally be reached on M-F 11-7.

  If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax

phone number for the organization where this application or proceeding is

assigned is 571-273-8300.

Information regarding the status of an application may be obtained from

the Patent Application Information Retrieval (PAIR) system. Status information

for published applications may be obtained from either Private PAIR or Public

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free). If you would like assistance from a USPTO Customer Service

Representative or access to the automated information system, call 800-786-

9199 (IN USA OR CANADA) or 571-272-1000.

/Timothy J Henn/
Primary Examiner, Art Unit 2622